**Adaptation**

Charles Darwin’s theory of natural selection describes how animals and plants have evolved over time and have adapted to their environments. He explains that this is caused by “survival of the fittest”. Animals and plants produce more offspring than can survive; many die before they have even begun to develop. Eric Carle’s “The Tiny Seed” is an example of this, the delightful story of a flower that produces many seeds, some drift to snowy mountains, others out to sea, some land in soil and begin to grow only to be overtaken by a bigger weed competing for sunlight and water and some are crushed by the feet of humans. Only one survives and grows into a beautiful flower where the process begins again. In the animal kingdom Darwin discovered that birds such as finches over time had adapted to their environments, each finch Darwin investigated he discovered differences in beak size, this allows each particular finch to have a maximum chance of survival in their environment. Darwin discovers the finches/organism’s whose characteristics are best adapted or suited to their particular environment will survive to pass on these genes to their offspring, the less adapted will die out- hence the survival of the fittest theory, this was later researched by Rosemary and Peter Grant. Adaptation refers to inheritable characteristics that are determined by our genes, it is a slow process which takes place over many generations. (Loxley, Dawes, Nicholls, Dore, 2014)

**Fish, ladybeetles, butterflies and peacocks have spots. But these spots are not for camouflage purposes: they are bright colourful spots easily seen by predators. *Why? Is this a problem or an advantage?* (Loxley, 2010)**

“Survival of the fittest” refers to animals that have adapted to give themselves the best chance of survival, weather that is by camouflaging themselves from predators, warning predators or attracting a mate for reproduction such as the Indian Peafowl (Peacock).

**DYEING POISON FROG**



The brightly coloured Dyeing Poison Frog is said to use its bright blue colouring as a warning to predators of its toxicity. The Dyeing Poison Frog excretes an alkaline- based poison that can cause paralysis or fatality in predators such as snakes and large spiders. The frog’s diet which consists mainly of ants is where the frog gets its toxicity from. Interestingly in captivity the Dyeing Poison Frog loses these toxins due to the lack in their diet.

**SNOW LEOPARD**



The Snow Leopard, found in the harsh, remote, mountainous areas of central Asia has adapted well to its living conditions. A solitary animal the Snow Leopard’s coat is long and thick for warmth in its cold habitat, the colouring ranges from white to smoky-grey with yellow tinges and dark grey to black spots. The short forelimbs and long hind limbs enable the Snow Leopard to be agile in its steep and rugged habitat while a long thick tail allows for balance and added insulation against the cold.

Many species of Leopard exist, each perfectly adapted to their own environment including deserts, mountains, jungles and swamps. These habitats also have an impact on the differences in coat colourings, although easily recognisable as leopards (apart from the black panther, also a member of the leopard family) because of their spots, leopards inhabiting savannah regions tend to have more of a reddish-brown body, while desert leopards are usually pale-cream or yellow-brown. Leopards from cooler regions (such as the snow leopard) appear greyer, and rainforest and high-mountain leopards have dark golden coats. Leopards that live in more open country tend to be larger than forest dwellers.

References

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